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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,685	09/29/2000	Masashi Hamada	36409-00300	3465

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EXAMINER

MILLER, BRANDON J

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 01/15/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/676,685	HAMADA, MASASHI	
	Examiner	Art Unit	
	Brandon J Miller	2683	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7, 11-14, 17-23, 26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-14, 17-23, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION**

***Response to Amendment***

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaku in view of Alperovich and Borst.

Regarding claim 1 Kaku teaches a wireless communication system having a wireless controller for controlling a wireless communication unit (see col. 5, lines 22-28 and col. 11, lines 50-55). Kaku teaches determining a situation controlled by a wireless controller (see col. 8, lines 46-54). Kaku teaches a memory for storing a charge schedule for changing a charge rate for communication in a wireless system (see col. 8, lines 52-53) and deciding the charge rate for communication based on the situation determined and the stored charge schedule (see col. 8, lines 46-54 and FIG. 1). Kaku does not specifically teach a threshold having a hysteresis characteristic for changing a charge rate for communication within a wireless cell. Alperovich teaches storing a threshold for changing a charge rate for communication within a wireless cell (see col. 3, lines 21-25 & 46-55). Borst teaches a hysteresis threshold to calculate signal measurement estimates to be used as cost values (see col. 11, lines 7-10, col. 13, lines 7-10, and col. 15, lines 55-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention to include a threshold having a hysteresis

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characteristic for changing a charge rate for communication within a wireless cell because this would allow for determination of a charge rate based on a desired threshold.

Regarding claim 2 Alperovich teaches determining the remaining amount of wireless resources within a wireless cell (see col. 3, lines 40-44).

Regarding claim 3 Alperovich teaches determining the traffic volume within a wireless cell (see col. 5, lines 44-48).

Regarding claim 4 Kaku teaches receiving a charge rate using an information signal which wireless controller transmits regularly to wireless communication unit (see col. 9, lines 39-46).

Regarding claim 5 Kaku teaches receiving a charge rate using a communication information signal transmitted from wireless controller to a wireless communication unit while wireless communication unit is communicating via wireless controller (see col. 9, lines 39-46 and col. 11, lines 49-55).

Regarding claim 6 Kaku teaches transmitting a charge rate added to accompanying control information included in a communication information signal (see col. 8, lines 29-38).

Regarding claim 7 Alperovich teaches a management unit for managing a plurality of wireless controllers (see col. 3, lines 7-12 and FIG. 2).

Regarding claim 23 Kaku teaches a wireless communication system having a wireless controller for controlling a wireless communication unit (see col. 5, lines 22-28 and col. 11, lines 50-55). Kaku teaches determining a situation controlled by a wireless controller (see col. 8, lines 46-54). Kaku teaches storing a charge schedule for changing a charge rate for communication in a wireless system (see col. 8, lines 52-53) and deciding the charge rate for communication based

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on the situation determined and the stored charge schedule (see col. 8, lines 46-54 and FIG. 1). Kaku does not specifically teach a threshold having a hysteresis characteristic for changing a charge rate for communication within a wireless cell. Alperovich teaches storing a threshold for changing a charge rate for communication within a wireless cell (see col. 3, lines 21-25 & 46-55). Borst teaches a hysteresis threshold to calculate signal measurement estimates to be used as cost values (see col. 11, lines 7-10, col. 13, lines 7-10, and col. 15, lines 55-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention to include a threshold having a hysteresis characteristic for changing a charge rate for communication within a wireless cell because this would allow for determination of a charge rate based on a desired threshold.

Claims 11-13, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaku in view of Alperovich and Beddoes.

Regarding claim 11 Kaku teaches a wireless communication system having a wireless controller for controlling a wireless communication unit (see col. 5, lines 22-28 and col. 11, lines 50-55). Kaku teaches receiving charge rate information by a mobile apparatus (see col. 8, lines 41-45). Kaku does not specifically teach a plurality of wireless controllers, identifying a charge rate for communication within each wireless cell, deciding a wireless controller to be connected to a mobile apparatus, or controlling the connection of a selected wireless controller and mobile apparatus. Alperovich teaches a wireless communication system having a plurality of wireless controllers for controlling mobile apparatus (see col. 3, lines 10-11 and FIG. 2). Alperovich teaches identifying a charge rate for communication within each wireless cell controlled by a plurality of wireless controllers (see col. 3, lines 41-50 and FIG. 2). Alperovich also teaches

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deciding a wireless controller to be connected to a mobile apparatus based on a charge rate, and a charge rate identifier, and controlling a connection to a wireless controller (see col. 4, lines 10-20 & 30-35). Beddoes teaches a charge rate notified by both a charge rate of each wireless cell and a charge rate notified by a wireless communication unit (see abstract, and col. 3, lines 3-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a plurality of wireless controllers, identifying a charge rate for communication within each wireless cell, deciding a wireless controller to be connected to a mobile apparatus, and controlling the connection of a selected wireless controller and mobile apparatus because this would allow for the identification of flexible charging rates through a communication network during an existing connection.

Regarding claim 12 Alperovich teaches deciding on one or more controllers to be connected to a mobile apparatus at the same time (see col. 4, lines 34-43).

Regarding claim 13 Kaku teaches identifying a charge rate based on a situation within a wireless cell (see col. 8, lines 46-56).

Regarding claim 26 Kaku teaches a wireless communication system having a wireless controller for controlling a wireless communication unit (see col. 5, lines 22-28 and col. 11, lines 50-55). Kaku teaches receiving charge rate information by a mobile apparatus (see col. 8, lines 41-45). Kaku does not specifically teach a plurality of wireless controllers, identifying a charge rate for communication within each wireless cell, deciding a wireless controller to be connected to a mobile apparatus, or controlling the connection of a selected wireless controller and mobile apparatus. Alperovich teaches a wireless communication system having a plurality of wireless controllers for controlling mobile apparatus (see col. 3, lines 10-11 and FIG. 2). Alperovich

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teaches identifying a charge rate for communication within each wireless cell controlled by a plurality of wireless controllers (see col. 3, lines 41-50 and FIG. 2). Alperovich also teaches deciding a wireless controller to be connected to a mobile apparatus based on a charge rate, and a charge rate identifier, and controlling a connection to a wireless controller (see col. 4, lines 10-20 & 30-35). Beddoes teaches a charge rate notified by both a charge rate of each wireless cell and a charge rate notified by a wireless communication unit (see abstract, and col. 3, lines 3-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a plurality of wireless controllers, identifying a charge rate for communication within each wireless cell, deciding a wireless controller to be connected to a mobile apparatus, and controlling the connection of a selected wireless controller and mobile apparatus because this would allow for the identification of flexible charging rates through a communication network during an existing connection.

Claims 14, 17-22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaku in view of Frager and Hillis.

Regarding claim 14 Kaku teaches a wireless communication unit for making communication in accordance with a charge rate notified by a wireless controller (see col. 8, lines 46-56 and col. 11, lines 50-55). Kaku teaches storing a charge rate in a mobile terminal (see col. 8, lines 42-45). Kaku teaches receiving from a wireless controller, information regarding the charge rate for communication (see col. 8, lines 50-56). Kaku teaches an alarm for notifying in which charging rate of communications has increased based on charge rates stored in memory and the charge rate received (see col. 8, lines 57-58 and col. 9, lines 1-9). Kaku does not specifically teach storing or exceeding a charge rate set by a user. Frager teaches a user

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selecting a charging region associated with a specific charging rate (see col. 2, lines 60-66 and col. 3, lines 18-26). Hillis teaches updating a rate indicator when a charging rate exceeds a threshold amount. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a charge rate that is set by a user because this would allow for flexible charging rates to be transmitted through a communication network while existing an existing connection exist.

Regarding claim 17 Kaku, Frager, and Hillis teach a device as recited in claim 14 except for communication of a wireless communication unit that is inhibited when a charge rate received exceeds a charge rate stored in memory. Hillis teaches a user inhibiting communication of a wireless communication unit when a charge rate is received exceeds a charge rate stored (see col. 3, lines 65-68 & col. 4, lines 1-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include communication of a wireless communication unit that is inhibited when a charge rate received exceeds a charge rate stored in memory because this would allow for a user to respond to the transmission of real time information concerning the charge rate of a communication service.

Regarding claim 18 Hillis teaches communication that is compulsorily enabled by performing a predetermined operation of a wireless communication unit even when communication is inhibited (see col. 4, lines 4-9).

Regarding claim 19 Kaku teaches receiving a charge rate using an information signal which wireless controller transmits regularly to wireless communication unit (see col. 9, lines 39-46).



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Regarding claim 20 Kaku teaches receiving a charge rate using a communication information signal transmitted from wireless controller to a wireless communication unit while wireless communication unit is communicating via wireless controller (see col. 9, lines 39-46 and col. 11, lines 49-55).

Regarding claim 21 Kaku teaches transmitting a charge rate added to accompanying control information included in a communication information signal (see col. 8, lines 29-38).

Regarding claim 22 Kaku teaches identifying a charge rate based on a situation within a wireless cell (see col. 8, lines 46-56).

Regarding claim 27 Kaku teaches a wireless communication unit for making communication in accordance with a charge rate notified by a wireless controller (see col. 8, lines 46-56 and col. 11, lines 50-55). Kaku teaches storing a charge rate in a mobile terminal (see col. 8, lines 42-45). Kaku teaches receiving from a wireless controller, information regarding the charge rate for communication (see col. 8, lines 50-56). Kaku teaches an alarm for notifying in which charging rate of communications has increased based on charge rates stored in memory and the charge rate received (see col. 8, lines 57-58 and col. 9, lines 1-9). Kaku does not specifically teach storing a charge rate set by a user. Frager teaches a user selecting a charging region associated with a specific charging rate (see col. 2, lines 60-66 and col. 3, lines 18-26). Hillis teaches updating a rate indicator when a charging rate exceeds a threshold amount. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a charge rate that is set by a user because this would allow for flexible charging rates to be transmitted through a communication network while existing an existing connection exist.

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***Response to Arguments***

Applicant's arguments with respect to claims 1-7, 11-14, 17-23, & 26-27 have been considered but are moot in view of the new ground(s) of rejection.

Regarding claims 1 and 23 the combination of Kaku, Alperovich, and Borst teach a device as claimed. Alperovich teaches a threshold for changing a charge rate for communication within a wireless cell (see col. 3, lines 21-25 & 46-55). Borst teaches hysteresis characteristics incorporated into a threshold for communication within a wireless cell (see col. 11, lines 7-10, col. 13, lines 7-10, and col. 15, lines 55-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Alperovich threshold to include the hysteresis characteristics in Borst because this would allow for improved determination of a charge rate based on a desired threshold.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Korpela U.S Patent No. 6,311,054 discloses a method to determine charging information in a mobile telecommunications system and a mobile station.

Rieken U.S Patent No. 6,009,154 discloses a process for flexible rate charging for existing connections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-4222. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

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December 23, 2003



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